

2. (ONCE AMENDED) [The] An isolated, enriched or purified nucleic acid molecule [of claim 1] encoding an ALK-7 polypeptide, wherein said nucleic acid molecule comprises a nucleotide sequence that

(a) encodes a polypeptide having the full length amino acid sequence set forth in SEQ ID NO:2;

(b) is the complement of the nucleotide sequence of (a); or

(c) hybridizes under highly stringent conditions to the nucleotide molecule of ([a] b) and encodes a naturally occurring ALK-7 polypeptide [;

(d) encodes an ALK-7 polypeptide having the full length amino acid sequence of the sequence set forth in SEQ ID NO:2, except that it lacks one or more of the following segments of amino acid residues: 1-25, 26-113, 114-493, 137-493, 193-483 of SEQ ID NO:2;

(e) is the complement of the nucleotide sequence of (d);

(f) encodes a polypeptide having the amino acid sequence set forth in SEQ ID NO:2 from amino acid residues 1-25, 26-113, 114-493, 137-493, 193-489 of SEQ ID NO:2;

(g) is the complement of the nucleotide sequence of (f);

(h) encodes a polypeptide having the full length amino acid sequence set forth in SEQ ID NO:2, except that it lacks one or more of the domains selected from the group consisting of a signal peptide, an extracellular region, a transmembrane domain, a cytoplasmic domain, and a catalytic domain; or

a1
~~(i) is the complement of the nucleotide sequence of (h)].~~

In both claims 3 and 5, line 1, please change "1" to --2--.

Please amend Claim 6 as follows:

a2
6. (ONCE AMENDED) ~~A nucleic acid probe for the detection of [a] the nucleic acid [encoding an ALK-7 polypeptide] molecule of Claim 2, Claim 23 or Claim 24 in a sample.~~

Please amend Claim 9 as follows:

a3
Sub B2
9. (ONCE AMENDED) A recombinant cell comprising a nucleic acid molecule encoding either
[(a) an] the ALK-7 polypeptide[;
(b) an ALK-7 domain polypeptide;
(c) an ALK-7 domain polypeptide] according to Claim 2, Claim 23 or Claim 24 or
the ALK-7 [domain] polypeptide according to Claim 2, Claim 23 or Claim 24 fused to a non-ALK-7 polypeptide.

Please add the following claims:

a4
Sub B3
--23. (NEW) A nucleic acid molecule encoding an ALK-7 polypeptide, wherein said nucleic acid molecule comprises a nucleotide sequence that

(a) encodes an ALK-7 polypeptide having the full length amino acid sequence of the sequence set forth in SEQ ID NO:2, except that it lacks one or more, but not all, of the following segments of amino acid residues of SEQ ID NO: 2: 1-25, 26-113, 114-493, 193-489;

(b) is the complement of the nucleotide sequence of (a);

(c) encodes a polypeptide having the amino acid sequence set forth in SEQ ID NO: 2 from amino acid residues 1-25, 26-113, 114-493, 193-489 or SEQ ID NO:2; or

(d) is the complement of the nucleotide sequence of (c).

24. (NEW) A nucleic acid molecule encoding an ALK-7 polypeptide, wherein said nucleic acid molecule comprises a nucleotide sequence that

(a) encodes a polypeptide having the full length amino acid sequence set forth in SEQ ID NO:2, except that it lacks one or more, but not all, of the domains selected from the group consisting of a signal peptide, an extracellular region, a transmembrane domain, a cytoplasmic domain and a catalytic domain; or

(b) is the complement of the nucleotide sequence of (a).

25. (NEW) The nucleic acid molecule of Claim 23 or Claim 24, further comprising a nucleotide sequence that encodes a non-ALK-7 polypeptide, wherein said non-ALK-7 polypeptide is fused to the ALK-7 polypeptide.

26. (NEW) The nucleic acid molecule of Claim 23 or Claim 24, wherein said nucleic acid molecule encodes a GST-fusion protein.

27. (NEW) An isolated, enriched or purified nucleic acid molecule encoding an ALK-7 polypeptide corresponding to the nucleotide sequence set forth in SEQ ID NO:1.

isolated, enriched, or purified

28. (NEW) The nucleic acid molecule of Claim 2, Claim 23 or Claim 24, further comprising restriction endonuclease recognition sites at the 5' end and/or 3' end,

so that the nucleic acid molecule is manipulable to contain functional alterations of the nucleic acid sequence that afford an opportunity to promote secretion and/or processing of heterologous proteins encoded therefrom.

29. (NEW) The nucleic acid molecule of Claim 5, wherein said vector is selected from the group consisting of pBR322, pUC118, pUC119, ColE1, pSC101, pACYC 184, pVX, pC194, pC221, pT127, p1J101, BPV, vaccinia, SV40, 2-micron circle, λ gt10, λ gt11, fC31, pMAM-neo and pKRC.

30. (NEW) The nucleic acid molecule of Claim 5, wherein said promoter is selected from the group consisting of the int promoter of bacteriophage λ , the bla promoter of the β -lactamase gene sequence of pBR322, the CAT promoter of the chloramphenicol acetyl transferase gene sequence of pBR325, the major right or left promoters of bacteriophage λ , the

trp, recA, lacZ, lacI or gal promoters of E. coli and the α -amylase or sigma-28 specific promoters of B. subtilis.

31. (NEW) The nucleic acid molecule of Claim 5, wherein said host cell is a yeast cell, a fungi cell, an insect cell, a plant cell or a mammalian cell, said mammalian cell either in vivo or in tissue culture.

4B
32. (NEW) The nucleic acid molecule of Claim 31, wherein said ~~mammalian~~ ^{mammalian} cell is selected from the group consisting of a COS Cell, an HEK293 cell, a VERO cell, a 3T3 cell, a CHO-K1 cell, a 32D cell, an SP2/0 cell, a J558L cell, an IMR 332 cell and a PC12 cell.

33. (NEW) The nucleic acid molecule of Claim 5, wherein said host cell is eukaryotic, and wherein said promoter is selected from the group consisting of a mouse metallothionein I promoter, the TK promoter of Herpes virus, the SV40 early promoter and the yeast gal4 promoter.

34. (NEW) The nucleic acid molecule of Claim 5, wherein said vector is pAdRSVOES or pRK5.

Subv
B3
35. (NEW) An isolated, enriched or purified nucleic acid molecule encoding an ALK-7 polypeptide, wherein said nucleic acid molecule comprises a nucleotide sequence that encodes